Year 9 **STELR CORE PROGRAM: REVISION** **Name: _____**

1. The difference between the Greenhouse Effect and Enhanced Greenhouse Effect is the Greenhouse Effect:
A. is the natural warming of the earth's atmosphere by the sun but the Enhanced Greenhouse Effect has caused additional warming due to a large amount of greenhouse gases from human and animal activity.
B. has caused additional warming due to a large amount of greenhouse gases from human and animal activity but the Enhanced Greenhouse Effect is the natural warming of the earth's atmosphere by the sun.
C. is the natural warming of the earth's atmosphere by the sun but the Enhanced Greenhouse Effect has not caused any additional warming.
D. has caused additional warming due to a large amount of greenhouse gases from human and animal activity but the Enhanced Greenhouse Effect has not caused any additional warming.

2. In a kettle, the energy transformations that occurs are summarized as:
A. thermal energy to electrical energy. B. thermal energy to mechanical energy.
C. electrical energy to thermal energy. D. mechanical energy to electrical energy.

3. When using a rubber band wheel car or the popping disk, the rubber band or the disk is used to:
A. convert mechanical (kinetic energy) to potential energy.
B. convert thermal energy to mechanical (kinetic energy).
C. convert potential energy to electrical energy.
D. convert potential energy to mechanical (kinetic energy).

4. When using solar panels the panels should be positioned on:
A. a flat roof on the south side. B. an angled roof on the north side.
C. a flat roof on the north side. D. an angled roof on the south side.

5. When connecting multiple solar panels in SERIES, it is true to say the:
A. voltage increases but the current stays constant. B. voltage stays the same and the current increases.
C. voltage and the current increase. D. voltage and current stay constant.

6. When connecting multiple solar panels in PARALLEL, it is true to say the:
A. voltage increases but the current stays constant. B. voltage stays the same and the current increases.
C. voltage and the current increase. D. voltage and current stay constant.

7. In an experiment using wind turbines, a student gets the following results keeping the length and angle of the blades constant at a medium fan speed. From the results it is true to say:

Number of blades	2	3	4	6
Voltage (V)	2.1	3.0	2.9	2.7

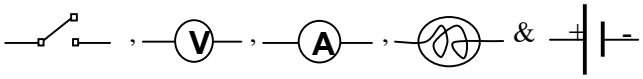
A. Longer blades will produce a higher voltage. B. the number of blades has no effect on the voltage.
C. 3 blades are very effective at generating electricity. D. an odd number of blades is not effective.

8. The units of measurement for Voltage, Current, Power and Energy are:
A. Volts, Amps, Watts and Joules respectively. B. Amps, Volts, Joules and Watts respectively.
C. Watts, Amps, Volts and Joules respectively. D. Joules, Volts, Amps and Watts respectively.

9. In an experiment using solar panels, a student gets the following results. From these results it is true to say:

Measurement	Voltage (V)	Current (A)	Power (W)
Control – 1 panel.	2.1	0.8	1.68
Setup A – 2 panels.	4.2	0.8	3.36
Setup B – 2 panels.	2.1	1.6	3.36

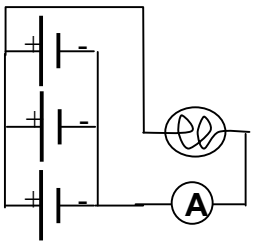
A. Setup A is in Parallel and Setup B is in Series. B. both Setup A and B are in Series.
C. both Setup A and B are in Parallel. D. Setup A is in Series and Setup B is in Parallel.

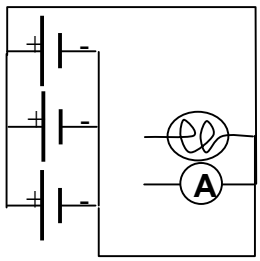
10. The following symbols used in circuit diagrams are: 

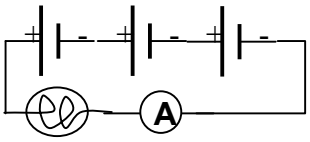
A. voltmeter, ammeter, switch, light bulb & power. B. ammeter, power, switch, voltmeter and light bulb.
C. switch, voltmeter, ammeter, light bulb & power. D. light bulb, ammeter, voltmeter, power and switch.

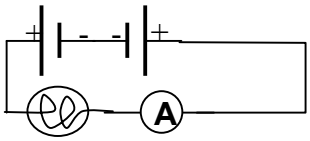
ANSWERS: 1. A. 2. C. 3. D. 4. B. 5. A. 6. B. 7. C. 8. A. 9. D. 10. C.

11. Which of the following circuit diagrams shows the power supplies in series:

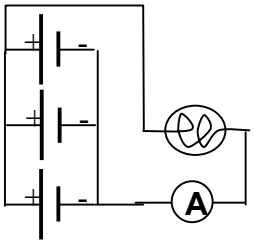
A. 

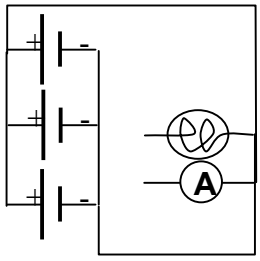
B. 

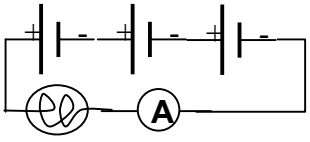
C. 

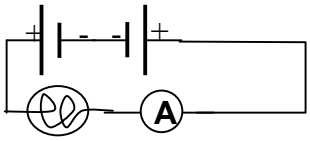
D. 

12. Which of the following circuit diagrams shows the power supplies in parallel:

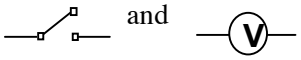
A. 

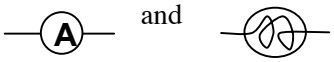
B. 

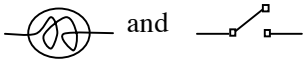
C. 

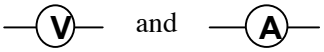
D. 

13. Which of the following should be used to measure the power produced in a circuit:

A. 

B. 

C. 

D. 

14. Explain the results you would expect in each of the following experiments measuring the voltage generated by a windmill:

a). medium length blades are used instead of long blades.

b). 3 blades are used instead of 6 blades.

c). The blades are set at 22.5 º and not 90 º.

d). A high wind speed is used instead of a low wind speed.

15. Should multiple 12 V solar panels be connected in Series or in Parallel to generate 240 V?

Answers: 11. C. 12. A. 13. D. 14a). larger voltage. b). larger voltage. c). larger voltage. d). larger voltage. 15. In Series